



Materials Declaration Form

IPC Form Type *	1752 Distribute	Version	2
Sectionals *	Material Info Manufacturing Info	Subsectionals *	A-D * : Required Field

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2019-04-30
Company Unique ID	NL 008751171801		
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Contact Phone *	Refer to Supplier Comment section	Contact Email *	Refer to Supplier Comment section
Authorized Representative *	Rossana Bonaccorso	Representative Title	ADG MD CHAMPION
Representative Phone *	Refer to Supplier Comment section	Representative Email *	Refer to Supplier Comment section
Supplier Comment	Online Technical Support - STMicroelectronics : http://www.st.com/web/en/support/support.html		

Uncertainty Statement


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Legal Statement		
Supplier Acceptance *	true	Legal Declaration *
		Standard

Legal Statement

Supplier certifies that it gathered the provided information and such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part(s), and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part(s), the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form.

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
BD678A	TCOT*BD02C6C	A	Z6TA	2019-04-30
	Amount	UoM	Unit type	ST ECOPACK Grade
	640	mg	Each	ECOPACK® 1
Comment	ECOPACK® or ECOPACK® 1 is STMicroelectronics trade name for ROHS compliant devices			

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		 life.augmented
Not Applicable	Not Applicable	Not Applicable		
Bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SOT	10.8-7.8-2.7	8	no lead	
Comment	Package: SOT-32			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-March 2015	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7b' exemption (other selected exemptions may apply)	FALSE
3 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	FALSE
Exemption Id.	Description
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
Exemption Id.	Description
8e	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

QueryList : California Prop65 list, dated 26th October 2018			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			FALSE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			TRUE
Substance	amount in product (mg)	Application	ppm in product
Nickel	7.19	Die - Leadframe	11227
Lead	3.73	Soft solder	5822
Antimony trioxide	13.62	Mold compound	21281

QueryList : REACH-15th January 2019				
Query				Response
1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
Lead	1000 ppm	3.73	soft solder	5822
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Embedded article nor Homogeneous Material above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material
Lead	1000 ppm	3.73	soft solder	958827

Material Composition Declaration :						Mfr Item Name	TCOT*BD02C6C					
note : Substance present with less 0.001mg will not be declared in this document												
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	M-011 Other inorganic materials	1.466	mg	supplier	die	Silicon (Si)	7440-21-3		1.404	mg	957708	2194
				supplier	metallization	Aluminium (Al)	7429-90-5		0.021	mg	14325	33
				supplier	Passivation	Silicon Oxide	7631-86-9		0.024	mg	16370	35
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.001	mg	682	2
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.012	mg	8186	19
Leadframe	Copper & its alloys	358.631	mg	supplier	alloy	Silver (Ag)	7440-22-4		0.004	mg	2729	6
				supplier	alloy	Copper (Cu)	7440-50-8		283.318	mg	789999	442684
				supplier	alloy	Iron (Fe)	7439-89-6		53.795	mg	150001	84055
				supplier	alloy	Phosphorous (P)	12185-10-3		14.345	mg	39999	22414
Soft solder	Solder	3.886	mg	supplier	metallization	Nickel (Ni)	7440-02-0		7.173	mg	20001	11208
				JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	3.726	mg	958827	5822
				supplier	solder	Tin (Sn)	7440-31-5		0.070	mg	18013	109
				supplier	solder	Silver (Au)	7440-22-4		0.090	mg	23160	141
Bonding wires	Other inorganic materials	0.401	mg	supplier	wire	Copper (Cu)	7440-50-8		0.401	mg	1000000	627
				supplier	Other inorganic materials	Silica (SiO2)	60676-86-0		256.131	mg	939999	400205
				supplier	Other inorganic materials	Antimony Oxide	1309-64-4		13.624	mg	50000	21288
Encapsulation	Other inorganic materials	272.480	mg	supplier	Other inorganic materials	Carbon Black	1333-86-4		2.725	mg	10001	4258
				supplier	Other inorganic materials	Carbon Black	1333-86-4		2.725	mg	10001	4258
Connections coating	Solder	3.136	mg	supplier	alloy	Tin (Sn)	7440-31-5		3.136	mg	1000000	4900